

Claims:

1. An angular velocity sensor comprising a transducer and a control circuit portion that drives the transducer and detects an angular velocity applied to the transducer, wherein:

a drive electrode portion into which is inputted a drive signal to oscillate the transducer at a specific frequency, a monitor electrode portion that detects an oscillation frequency of the transducer and outputs the detected oscillation frequency as a monitor signal, and a sense electrode portion that outputs a sense signal which is generated due to an angular velocity applied to the transducer and is synchronized with the monitor signal, are formed in the transducer; and

a correction circuit portion is provided that removes, as a noise component, a signal component of the sense signal detected erroneously as if an angular velocity occurred when no angular velocity is occurring in the transducer, from a signal component of the sense signal.

2. The angular velocity sensor according to Claim 1, further comprising:

a memory portion for storing in advance data to remove the noise component from the signal components of the sense signal,

wherein the correction circuit portion generates the

correction signal based on the data stored in the memory portion and the monitor signal, and constantly removes the noise component from the signal components of the sense signal by superimposing the generated correction signal on the sense signal.

3. The angular velocity sensor according to Claim 2, wherein:

the memory portion includes a data input terminal for the data to be stored; and

the data input terminal is brought into a conducting state when the data is stored in the memory portion, and brought into a non-conducting state after the data has been stored in the memory portion.

4. The angular velocity sensor according to Claim 2 or 3, wherein:

the correction circuit portion includes a ladder resistor and a switch portion that adjusts a resistance value of the ladder resistor according to the data stored in the memory portion, and generates the correction signal by attenuating the monitor signal using the ladder resistor.

5. The angular velocity sensor according to Claim 4, wherein:

the resistance value of the ladder resistor is set to be at least 100 times as large as a resistance value of internal resistance of the switch portion.

6. The angular velocity sensor according to any one of Claims 1 through 5, wherein:

the noise component contains a first noise component generated in a state where a phase of the sense signal is not shifted with respect to a phase of the monitor signal; and

the correction circuit portion includes a first noise correction circuit that removes the first noise component.

7. The angular velocity sensor according to Claim 6, wherein:

the noise component contains a second noise component except for the first noise component, that is generated due to a phase shift between the monitor signal and the sense signal; and

the correction circuit portion includes a second noise correction circuit that removes the second noise component.

8. The angular velocity sensor according to any one of Claims 1 through 7, further comprising:

a monitor amplifier that amplifies the monitor signal and a sense amplifier that amplifies the sense signal,

wherein degrees of amplification of the monitor amplifier and the sense amplifier are made equal.

9. The angular velocity sensor according to any one of Claims 1 through 8, wherein:

the noise component is a signal component generated due to a mass balance of the transducer.